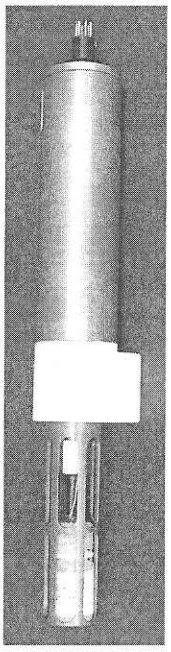
pH/O.R.P (Redox) Sensor

SBE 27

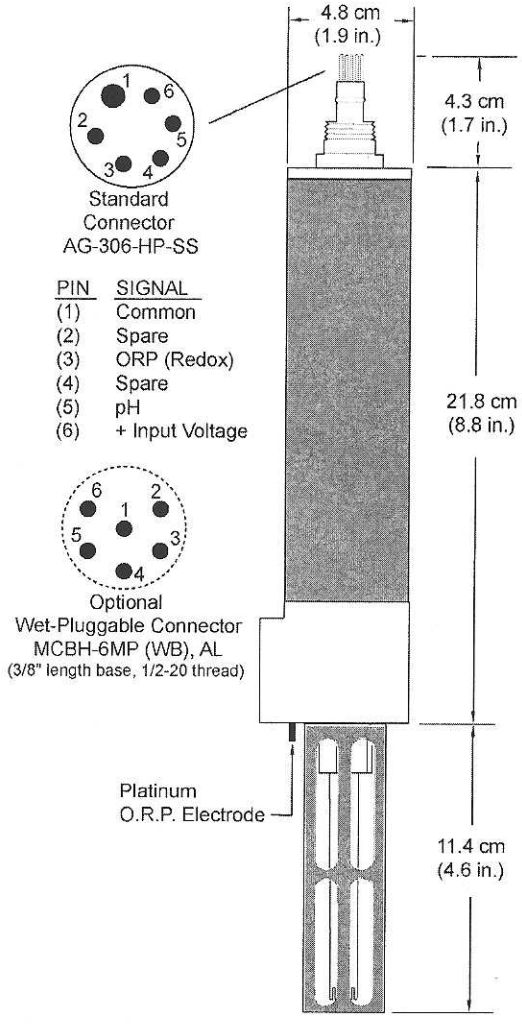


The **SBE 27** pH and O.R.P. (Redox) sensor combines a pressure-balanced, glass-electrode, Ag/AgCl reference probe and platinum O.R.P. electrode to provide *in-situ* measurements up to 1200 meters deep. The replaceable pH probe is permanently sealed and is supplied with a soaker bottle attachment to prevent the reference electrode from drying out during storage.

The sensor elements and their interface electronics are modular and self-contained, providing easy installation, service, and calibration. The SBE 27 is intended for use as an add-on auxiliary sensor for profiling CTDs (SBE 9*plus*; SBE 19, 19*plus*, and 19*plus* V2 SEACAT; and SBE 25 SEALOGGER). Power / signal interface cables and mounting hardware are available separately.

The SBE 27 interface electronics buffer and offset the differential voltages of the pH reference junction and the electrode potential (in water) between the O.R.P. electrode and the pH reference junction to produce pH and O.R.P. dependent output voltages. Computation of pH and O.R.P. in engineering units is typically using our SEASOFT© software.

Sea-Bird calibrates the pH sensor against precision buffer solutions (4, 7, 10 pH ± 0.02 pH). The extremely stable O.R.P. circuitry is calibrated at the factory and does not require subsequent calibrations. These calibration results are tabulated on a certificate furnished with each sensor.



SPECIFICATIONS

	pH	O.R.P.
Measurement range	0 - 14 pH	± 1250 mV
Accuracy [1]	± 0.1 pH	± 1.0 mV
Time response [2]	1 second	10 ms

[1]Stated accuracy is achievable with frequent field calibrations.
[2]Time to reach 63% of final value following a step change in the measured parameter.

Power required	6 - 24 VDC, 10 mA
Signal outputs	0 to +5 V
Operating depth	1200 meters (3900 ft)
Weight	0.7 kg (1.6 lbs) in air; 0.3 kg (0.7 lbs) in water
Materials	Anodized aluminum (6061-T6), stainless steel, plastic (acetal copolymer)

05/08

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